

Status of the Great Barrier Reef World Heritage Area: estuarine and inshore fisheries

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Estuarine and inshore fisheries resources within the Great Barrier Reef World Heritage Area are multiple use fisheries accessed by commercial and recreational fishers, charter boat and fishing guides and traditional indigenous fishers.

The predominant species include mullet, bream, whiting, lesser mackerel, salmon, barramundi, shark and mud and spanner crabs.

Total catch in the Great Barrier Reef World Heritage Area of inshore fin fish is approximately 3000 tonnes with an estimated value of \$15 million. Additionally, approximately 300 tonnes of mud crabs and 1500 tonnes of spanner crabs are taken in the area for a total value to fishers of approximately \$12 million.

Fin fish species and mud crabs are widely distributed throughout the inshore area of the Great Barrier Reef World Heritage Area with some variation in distribution dependent on geographical location.

The spanner crab fishery in the Great Barrier Reef World Heritage Area is limited to south of 23° at present, however, new fishing grounds are being explored with a consequent increase in fishing area annually.

Increasing human populations based in the littoral zone are increasing pressure on fisheries resources through increased recreational fishing activity and increased demand for local fresh seafood. Detrimental impacts on local habitats and degradation of water quality resulting from population pressures also have major effects on dwindling stocks.

Sectors involved in harvesting or using inshore fish and crab stocks include:

- Commercial fishers
- Recreational fishers
- Charter boat operators and fishing guides
- Traditional fishers

The actual number of commercial net and inshore fishers accessing inshore stocks within the Great Barrier Reef World Heritage Area is difficult to determine as commercial operators are not confined to any regional locality. However, there are 1029 commercial net endorsements issued to east coast operators and an estimated 40% to 50% are believed to operate in the Great Barrier Reef World Heritage Area.

The corner stone of fisheries management in Queensland is the limited licensing program. This has been in effect since 1984. Each licence holder is further constrained in their fishing activities through limitations on length, drop, mesh size, and line strength of commercial nets. Vessels upgrade and replacement policies have been implemented to assist in constraining effort at present levels. Additionally, there is an extensive range of spatial and temporal closures aimed at protecting juvenile and breeding stocks and reducing conflict among fishing sectors.

Minimum and maximum legal sizes of fish are considered an important management intervention to ensure sustainable catches. Minimum sizes have been established for many species to ensure at least one spawning prior to capture. Maximum sizes are implemented to protect large breeding female fish, for example, barramundi.

Similar to the net fishery, the mud crab fishery allows access to the entire Queensland coast by 1064 fishers, the present number of crab fishery entitlements on issue in Queensland. Commercial mud crab fishers must not use more than 50 pots or dillies under each entitlement. A minimum legal size of 150 mm applies to mud crabs with a total prohibition on the taking of female crabs.

The spanner crab fishery is seen as a developing fishery. It has increased dramatically in area and catch over the past five years. Recent management interventions have included a zoning arrangement to reflect the developed and developing fisheries, a total allowable catch of 2000 kg in the developed zone and a daily catch quota of 300 kg throughout the fishery. These arrangements are aimed at reducing fishing pressure and are additional to the traditional management measures such as restrictions on apparatus, minimum legal sizes and seasonal closures.

Apparatus used to take spanner crabs is limited to 30 dillies (flat frames) not greater than 1 m² with a mesh drop of not more than 10 cm and a mesh size of 25 mm when hung singly or 51 mm when hung doubly. Recreational anglers accessing inshore fin fish species and crab species require no authority but are constrained in their activities by output and apparatus controls.

Bag limits have been established for significant species, for example, barramundi and mud crabs, and the State Government Inquiry into Recreational Fishing has also identified other species it believed should be subject to bag limits. The proposed bag limits on whiting, bream, grunter, flathead and mangrove jack are expected to be implemented through the management planning process. Recreational fishers are permitted to use a bait net not exceeding 16 mm in length, 3 m in depth with a maximum mesh size of 28 mm to take bait for their own use. They may also use a cast net with a diameter less than 6 m and a maximum mesh size of 28 mm. Recreational fishers may only use hand lines or rod and reels with not more than six hooks on each line. When used from a boat not more than three lines may be used by each angler.

Recreational crab fishers may not use more than four dillies or crab pots and the prohibitions on taking female mud crabs and crabs less than 150 mm across the carapace apply.

Clients of charter boat operators and fishing guides are subject to the same provisions as all recreational fishers. The Queensland Government has introduced a licensing scheme for charter boats and fishing guides to enable management of the sector.

The number of fishing guides and charter vessel operators is presently unknown and their effort adjacent to population centres and tourist destinations is considered significant.

Traditional fishers have access to inshore fin fish and crab resources and may use nets, hand lines, stone traps, spears and hand gathering techniques to take fish for traditional uses.

Commercial inshore fin fish catch levels in the Great Barrier Reef World Heritage Area have remained constant over the past seven years (the period during which catch records are available).

Some localised declines have occurred but are considered to be either seasonal or resulting from poor climatic seasons.

The present levels of commercial harvest are considered to be sustainable and the resource to be fully utilised. Concerns have been expressed in relation to the extent of latent effort and the issue of zoning of operators will need to be addressed under the proposed Management Plans.

The commercial mud crab fishery catches have remained stable since the early 1980s.

Whilst the commercial landings of spanner crab have increased annually since the late 1980s recent indications of declining catch rates have occurred. Pressure from the demand for export of spanner crabs has driven the fishery with 80% of product exported. These declines are expected to be arrested under the management arrangements that have been implemented.

While recreational catch rates of fish and crabs are unknown it is believed that catch rates are declining, in particular adjacent to population centres. This trend can be expected to continue with increasing human populations.

The major knowledge gaps in the fisheries are the lack of recreational catch data and data relating to stock assessment of all species.

The *Fisheries Act 1994* has highlighted the development of species based management plans to ensure sustainable fisheries.

The precautionary principle is being invoked where gaps in knowledge of the resource occur. Advisory Committees have been established involving all sectors of the community in the decision-making process to ensure sustainable fishing practices are adopted. Attention is being given to practices which inadvertently take endangered species. These measures may include variations to apparatus or ultimately areas closed to fishing to protect endangered species.

Advisory Committees are providing advice on relevant research programs required to enable managers to make decisions based on the biological needs of fish stocks. The Advisory Committees also provide a forum for advised debate and a conduit for dissemination of information to the public including the rationale for management decisions aimed at ensuring sustainable use of all inshore fisheries resources.